information.

Other embodiments will be apparent to those skilled in the art from consideration of the specification and practice of the invention disclosed herein. It is intended that the specification and examples be considered as exemplary only, with a true scope and spirit of the invention being indicated by the following claims.

1. A network element comprising:

an input circuit configured to receive a first plurality of optical signals, said first plurality of optical signals being grouped into a plurality of time slots, selected ones of said plurality of time slots being concatenated, said plurality of optical signals conforming to a synchronous optical network (SONET) standard, except a sequence of said plurality of concatenated time slots being non-conforming with said SONET standard;

a switch circuit coupled to said input circuit, said switch circuit being configured to receive data from said input circuit corresponding to said optical signals; and

an output circuit coupled to said switch circuit, said output circuit receiving said data and outputting a second plurality of optical signals in response to said first plurality of optical signals.

2. A network element in accordance with claim 1, wherein said input circuit comprises:

a pointer determining circuit coupled to said switch circuit and configured to provide a pointer identification for each of said plurality of concatenated time slots, said

output circuit outputting said plurality of concatenated time slots in accordance with said pointer identification for each of said plurality of time slots.

3. A network element in accordance with claim 1, further comprising:

a memory coupled to said pointer determining circuit, said memory containing information identifying said plurality of concatenated time slots, said pointer determining circuit determining said pointer identification based on said information.

4. A network element in accordance with claim 3, wherein said plurality of time slots are grouped in frames, each of said frames including N time slots, where N is an integer, said memory comprising:

a first submemory having N storage locations, selected storage locations in said first memory being configured to store identification information associated with a first one of said plurality of concatenated time slots in said sequence; and

a second submemory having N storage locations, selected storage locations in said second memory being configured to store identification information associated with subsequent ones of said plurality of concatenated time slots following said first one in said sequence.

5. A network element in accordance with 1, wherein said switch circuit further comprises:

a first switch stage coupled to said input circuit; and

a second switch stage coupled to said output circuit.

6. A network element in accordance with claim 2, further comprising:

an additional pointer determining circuit coupled to said output circuit, and configured to determine said pointer identification within each of said plurality of concatenated time slots, said output circuit outputting said plurality of concatenated time slots in accordance with said pointer identification within each of said plurality of time slots; and

an additional memory coupled to said output circuit, said additional memory being configured to store said information identifying said plurality of concatenated time slots, said additional pointer determining circuit detecting said pointer location based on said information.

7. A network element in accordance with claim 6, wherein said plurality of time slots are grouped in frames, each of said frames including N time slots, where N is an integer, said additional memory comprising:

a first submemory having N storage locations, selected storage locations in said first memory being configured to store identification information associated with a first one of said plurality of concatenated time slots in said sequence; and

a second submemory having N storage locations, selected storage locations in said second memory being configured to store identification information associated with subsequent ones of said plurality of concatenated time slots following said first one in said sequence.

8. A network element in accordance with claim 6, wherein said output circuit further comprises a plurality of buffer circuits, each of said buffer circuits being configured to store a respective one of said plurality of concatenated time slots, said

buffer circuits outputting said plurality of concatenated time slots in a synchronized manner in response to said pointer identification.

9. A network element in accordance with claim 8, wherein each of said plurality of buffer circuits comprises a first-in first-out (FIFO) buffer.

10. A network element in accordance with claim 1, wherein said plurality of concatenated time slots constitute at least one OC-3c.

11. A network element in accordance with claim 1, wherein said plurality of concatenated time slots constitute at least one OC-12c.

12. A network element in accordance with claim 1, wherein said plurality of optical signals are transmitted at an OC-48 rate.

13. A switching method, comprising the steps of:

supplying a plurality of optical signals to a switch, said plurality of optical signals being grouped into a plurality of time slots, selected ones of said plurality of time slots being concatenated, said plurality of optical signals conforming to a synchronous optical network (SONET) standard, except a sequence of said plurality of concatenated time slots being non-conforming with said SONET standard;

determining a pointer in each of said concatenated time slots; and

outputting said plurality of concatenated time slots from said switch in accordance with said pointer in each of said concatenated time slots.

14. A method in accordance with claim 13, further comprising the step identifying said plurality of concatenated time slots.

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15. A method in accordance with claim 14, further comprising the step of storing information corresponding to said identified plurality of concatenated time slots in a memory.

16. A method in accordance with claim 15, wherein said determining step is based on information corresponding to said identified plurality of concatenated time slots.

17. A method in claim 13 wherein said outputting step further comprises the step of synchronizing said plurality of concatenated time slots based on said pointer of each of said plurality of concatenated time slots.

18. A method in accordance with claim 13, wherein said plurality of concatenated time slots constitutes at least one OC-3c.

19. A method in accordance with claim 13, wherein said plurality of concatenated time slots constitutes at least one OC-12c.

20. A method in accordance with claim 13, further comprising the steps of:

storing first identification information associated with a first one of said plurality of concatenated time slots in said sequence in a first memory; and

storing, in a second memory, second identification information associated with selected ones of said plurality of concatenated time slots following said first one of said plurality of concatenated time slots in said sequence.

21. A method in accordance with claim 20, wherein said determining step is based on said first and second information.

22. A network element, comprising:

a switch configured to receive a first plurality of optical signals, said first plurality of optical signal being grouped into a plurality of time slots, selected ones of said plurality of time slots being concatenated, said plurality of optical signals conforming to a synchronous optical network (SONET) standard, except a sequence of said plurality of concatenated time slots being non-conforming with said SONET standard, said switch being further configured to output a second plurality of optical signals corresponding in response to said first plurality of optical signals.

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